

Lahontan Regional Water Quality Control Board

May 24, 2016

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United States Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105

COMMENTS ON ATLANTIC RICHFIELD COMPANY'S FINAL REFERENCE AREA FOCUSED REMEDIAL INVESTIGATION (FRI) WORK PLAN AND TABLE 2 - RESPONSE TO LRWQCB COMMENTS ON ATLANTIC RICHFIELD RESPONSE TO LRWQCB COMMENTS ON DRAFT FINAL REFERENCE AREA FOCUSED REMEDIAL INVESTIGATION WORK PLAN (WORK PLAN DATED FEBRUARY 28, 2015, ATLANTIC RICHFIELD RESPONSES DATED AUGUST 14, 2015, LRWQCB COMMENTS DATED AUGUST 31, 2015), LEVIATHAN MINE SITE, ALPINE COUNTY, CALIFORNIA

Thank you for the opportunity to comment on Atlantic Richfield Company's March 3, 2016, *Final Reference Area FRI Work Plan and Table 2 - Response to LRWQCB Comments on Atlantic Richfield Response to LRWQCB Comments on Draft Final Reference Area Focused Remedial Investigation Work Plan (Work Plan Dated February 28, 2015, Atlantic Richfield Responses Dated August 14, 2015, LRWQCB Comments Dated August 31, 2015) [referred to as Table 2 RTC]* for the Leviathan Mine Site. The California Regional Water Quality Control Board, Lahontan Region (Water Board) staff has the following comments:

1. Table 2 RTC, Page 1 of 4, Comment # 1 – It is not clear based on Figures 1-3 how ecology is not significantly different between Cottonwood Creek and On-property reaches based on Rapid Bioassessment Protocol (RBP) scoring. The figures showing RBP scores include colored bars representing various types of measurements which are not all necessarily related to ecology and no units are included. How do these figures display the similarities in ecology between stream reaches? If these figures were used in the decision criteria for reference stream selection, they should be included in the report with associated data values for specific measurements taken.
2. There are inconsistencies with information provided in the tables. For example:
 - ☐ Table 4-1 has an *unknown width* for Upper and Lower Mountaineer Creek and Cottonwood Creek, and *estimated widths* for Leviathan Creek above Station 1 and Aspen Creek above Station 22. In Table 5-2, there are *width ranges* for the creeks that had *unknown* listed in Table 4-1 and the same *estimated width* values for Leviathan and Aspen Creeks. Why is there

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different information between the two tables? Please revise the tables to provide consistency.

- ☐ Table 4-1 has *unknown* listed for Transport\Storage for Upper and Lower Mountaineer Creek, Cottonwood Creek, Leviathan Creek above Station 1, and Aspen Creek above Station 22, whereas Table 5-2 has information listed for Transport\Storage for the same stream reaches. Please revise the tables to provide consistency.
 - ☐ Table 4-1 has Reach 3 listed as one segment; however, Table 5-2 breaks up Reach 3 into three reach segments - 3A, 3B, and 3C. Additionally, Table 4-1 has the On-Property Reach as Leviathan and Aspen Creek combined while Table 5-2 breaks up the On-Property Aspen Creek into two segments and has the Leviathan Creek segment listed separately. Additionally, Tables 5-4 and 5-3 list On-Property Leviathan and Aspen Creeks as separate reaches and Reach 3 as an Upper and Lower Reach 3. Please revise the tables to provide consistency with stream reach designations.
 - ☐ Table 4-2 and Table 7 have a value of *Poor* listed for Elevation for Leviathan Creek above Station 1 when compared to the On-Property Reach, whereas Table 5-4 has a value of *Fair* and *Good* listed for Elevation for Leviathan Creek above Station 1 when compared to the On-Property Leviathan Creek Reach and On-Property Aspen Creek reach, respectively. Please revise the tables to provide consistency. Additionally, the criteria used for determining what elevation difference constitute a Good, Fair, or Poor designation should be explained.
 - ☐ Table 5-3 lists Drainage Area comparisons between stream reaches using data from Table 5-1. There are no explanations for establishing the designations of Rank provided in these tables or in the text of the report. What criteria are used for determining the Rank values of Good, Fair, or Poor?
 - ☐ What supporting data was used to populate the column Channel Type in Table 5-4? How was the Total Score value determined in Table 5-4? Additionally in Table 5-4, the two potential reference reaches, Cottonwood Creek and Leviathan Creek above Station 1, have a Total Score of 23 for comparison purposes with On-Property Leviathan Creek. However, only Cottonwood Creek is selected as a potential reference reach. How was this determination made?
3. Page 49, Section 5.1.2.1, bulleted list, first bullet – If the potential reach is very limited in length, the additional reconnaissance mapping should include evaluating additional length upstream for this reach.
4. Page 63, Section 6.0, last paragraph – This section includes additional reconnaissance mapping on Upper Aspen and Leviathan Creeks to determine if stream reaches with similar characteristics are present and to validate findings in Sections 5.1.2.1 and 5.1.2.2. If similar characteristics are determined to be present,

what are the next steps for data collection in these stream reaches (e.g. Sediment Quality Triad or floodplain samples)?

If you have any questions regarding these comments, please contact Hannah Schembri, Water Resource Control Engineer at hannah.schembri@waterboards.ca.gov or (530) 542-5423, or me at douglas.carey@waterboards.ca.gov or (530) 542-5468.

A handwritten signature in black ink, appearing to read 'D. Carey', with a long horizontal stroke extending to the right.

for:

Douglas Carey, P.G.
Senior Engineering Geologist, Leviathan Mine